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April 19, 2011

VIA FEDERAL EXPRESS

Peter Briggs, Director
New York State Department of
Environmental Conservation
Division of Mineral Resources
Bureau of Oil & Gas Permitting and Management
625 Broadway, 3rd Floor
Albany, NY 12233-6500

Re: Finger Lakes LPG Storage, LLC, Schuyler County

Response to Third Notice of Incomplete Application

Dear Peter:

Enclosed please find our response to the Department's March 28, 2011 Third Notice of Incomplete Application regarding Finger Lakes LPG Storage, LLC's Underground Storage Application.

We would appreciate the Department's prompt review so that completeness of Finger Lakes' Underground Storage Application can coincide with completeness of the Draft Supplemental Environmental Impact Statement.

Please note that the information provided with this transmittal and the information contained in the Response contain confidential information or confidential and/or proprietary, trade secret or business information and should be treated as privileged and confidential and should not be released pursuant to the provisions of 6 NYCRR § 616.7. See attached table for more specifics in this regard.

Peter Briggs, Director April 19, 2011 Page 2

If you have any questions, please feel free to contact me. Thank you.

Sincerely,

BOND, SCHOENECK & KING, PLLC

Kevin M. Bernstein

Enclosures

Linda Collart/William Glynn, NYSDEC (w/enclosure) CC: via Federal Express David Bimber, NYSDEC (w/enclosure) via Federal Express Dr. Langhorne Smith, NYSGS (w/enclosure) via Federal Express via Federal Express Jennifer Maglienti, Esq., NYSDEC (w/enclosure) Finger Lakes LPG Storage, LLC (w/enclosure) via Federal Express

FINGER LAKES LPG STORAGE, LLC RESPONSE TO DEC MARCH 28, 2011 THIRD NOTICE OF INCOMPLETE APPLICATION April 19, 2011

REQUEST FOR CONFIDENTIAL TREATMENT

Document	Confidential Status Sought?	Basis
Response to NOIA		
Sections:		
Financial Status/Transfer of Well Plugging Responsibilities	No	
Maps	Yes	Information regarding cavern specifics, internally maintained productions records, cavern evaluation data and logs, historic brinefield maps, bond logs and revised Gallery Maps are critical infrastructure and confidential commercial information under 6 NYCRR §§ 616.7(c)(2)(i)(b) and (c), 616.7(c)(2)(ii), 616.7(c)(2)(iv), (v) and (vi). In addition, information of this type has been determined by the DEC to be confidential in previous determinations.
Reservoir Suitability Report (including attachments)	Yes	Same reason as above.
Well Status and Condition Report (including attachments)	Yes	Same reason as above.

Finger Lakes LPG Storage, LLC

Finger Lakes LPG Storage Facility Reading, New York

Response to DEC March 28, 2011 Third Notice of Incomplete Application

Financial Security/Transfer of Well Plugging Responsibilities

DEC Comment 1. A Request For Well Transfer with appropriate financial security held by the Department is required for any project well not currently in the applicant's name (e.g., Well 58, API 31-097- 21467-00-01). Adequate financial security must also be in place for any newly proposed well(s).

Finger Lakes Response: A signed Request for Well Transfer was attached to our May 14, 2010 in response to DEC's January 11, 2010 Notice of Incomplete Application. We have been advised by Jenna Dott of the Department that whether well 58 is owned by US Salt, as it is now, or Finger Lakes, as it will be after transfer, there is adequate room in the blanket bonds in place with the Department. If not, we will provide any additional financial security that is required immediately.

Map(s)

The following issues remain and must be addressed concerning Finger Lakes' Gallery Map (Exhibit A):

DEC Comment 1. Revised pillar width between Finger Lakes Gallery 1 and International Gallery 10: Finger Lakes states that on the original gallery map "the north direction was incorrectly pointed towards the west (upper right corner of the original map) which moved the well orientation more towards the west" and that this was the reason for the pillar width increase between proposed Finger Lakes Gallery 1 and International Gallery 10. It is understood how this affected cavern orientations and affected the pillar width. However, the distance between wells 44 and 52 also appears to have increased from the original map to the current map but no explanation for this change was provided by Finger Lakes. Please explain why the distance between the wells changed from the original map to the revised map. Is this the result of recent remapping of the brine field? If so, what resurveyed well locations were incorporated into current Exhibit A?

Finger Lakes Response: The distance between wells 44 and 52 was not specifically shown on the gallery map. However, we do have GPS latitude/longitude coordinates for these two wells (see Attachment A). Our surveyors (C.T. Male Associates) advise that based on a review of these coordinates, the distance between these two wells is 472.6 feet. This distance is reflected on the most recent version of the Gallery Map.

DEC Comment 2. Determination of cavern outline for International Gallery 10:

DEC Comment 2a. The utility of re-entering Well 52 to obtain a sonar survey was not addressed as requested – please do so.

Finger Lakes Response: Finger Lakes saw no need to further reenter and sonar this well since well 52 was closer to 44 and the wellbore was evaluated with several comprehensive logging runs. The segmented/cement bond log for well 52 showed cement behind the casing and the gamma ray log on the left of the log showed formation tops/responses equal to the formation depths seen in other wells in the field. That proves that there is no cavern outside the cemented production casing down to where the brine was being produced. Obviously the sonar cannot see what is not there; that is, no cavern behind the casing in well 52 from the top of salt, except near the original bottom of the casing where brine was produced from injection of water in well 57.

DEC Comment 2b. Finger Lakes states "Well 18 was drilled and a deep well pump was utilized to extract brine from this well until it was abandoned in 1942." Please provide a copy of this well record.

Finger Lakes Response: Some well records were provided for well 18 in Exhibit B to our September 28, 2010 Response. The only other additional records found (referencing wells in Gallery10) are included herein as Attachment B. A well history summary spreadsheet with some information originally supplied by Larry Sevenker (including for well 18) and a 1946 history of the plant and area salt deposit (page 4) indicate that well 18 was used as a deepwell pump from 1937 to 1941, abandoned in 1942, and plugged in 1977.

DEC Comment 2c. It is understood that no production records are available for Well 18 (1936-1977 {1942}), Well 52 (1972-1983, 1985) and Well 57 (1977-1983, 1985). Please explain how Messrs. Sevenker, Eyermann, Istvan, Moon and Crea concluded that the shape on the gallery map is supported by production records if not all production records are available. Please also confirm that the shape shown on the gallery map was originally determined by one of US Salt's predecessors. If "yes," please identify and provide earliest dated map showing the same gallery outline.

Finger Lakes Response: The open hole logs of wells 52 and 57 both correlate horizontally. As previously discussed in our September 28, 2010 response, well 57 was the water injection well, well 18 was produced with an electric submersible pump (no water injection, simply pumping brine out of the cavern), and well 52 was the withdrawal well. With water injection mostly into well 57, the larger area of the cavern was dissolved/developed as we have shown on the cross-section sent to DEC in September.

Thus, the International Gallery 10 interpretation shows the largest area of the cavern being around wells 57 and 18 for these reasons; most of the dissolution was near those wells and not well 52. The actual outline is conceptual based on the water injection into well 57. Other than what is provided in **Attachment B**

¹ Some of the records are partially illegible; these are the best copies we could make.

(including a portion of a 1979 brinefield map), we were not able to find any historical gallery outlines of International Gallery 10.

DEC Comment 2d. Finger Lakes states that the CBL for Well 52 shows good cement from 1,180' to total logging depth and that there is no cavern behind the cemented well casing to those depths, and that the Tully, Marcellus and other formations are easily identified. Please provide a copy of Well 52's CBL with the tops of the Tully, Marcellus, Onondaga, Helderberg/Manlius, Rondout, Bertie, Camillus and each Syracuse salt unit (i.e., F-4 through D-3) identified.

Finger Lakes Response: The Cement Bond Log (CBL) for well 52 has been annotated to show the tops of the referenced formations and, where applicable, the salt units (using Rickard designations). See Attachment C.

DEC Comment 3. Replacement wells: The location of any new wells, other than FL1, that may be drilled as replacement wells for other wells being plugged must be shown on Exhibit A.

Finger Lakes Response: As noted below in the first open item related to Finger Lakes' Cavern Development Plan and Proposed Operations, Finger Lakes will now be plugging and abandoning well 44. Finger Lakes will agree to install a replacement monitoring well that will be completed at the high point of the northern portion (or "head") of the Gallery. This well will be used as initially envisioned by Finger Lakes – that is, as a monitoring well. For the replacement well, no brine injection will take place, but the well could be used to recover any LPG that moves in the head of the Gallery. The location of the replacement well is shown as FL2 on revised Exhibit A which is included with this Response as Attachment D.

Reservoir Suitability Report

The following issues remain and must be addressed concerning Finger Lakes' Finite Element Analysis ("FEA," Exhibit C):

DEC Comment 1. The FEA's executive summary on page 1 states "Both well 58 (far away and not on FEA map, and NYSEG Galleries 1 natural gas storage service) and 2 are also too far away to have any affect on the Finger Lakes (FL) LPG storage cavern" [sic].

DEC Comment 1a. Does the above FEA statement hold true should the NYSEG Gallery 2 (tentatively being transferred to Arlington Storage Company, LLC) be converted to natural gas service at some future date with a 0.18 psi/ft minimum and 0.75 psi/ft maximum operating pressure measured to the ceiling of the cavern at Well 31? Please modify the FEA as appropriate to address this issue or provide the page number where this is already addressed.

Finger Lakes Response: Yes, the FEA conclusions are still valid, even with the conversion of NYSEG Gallery 2 to natural gas service. As noted in the FEA, the existing NYSEG natural gas storage caverns known as Gallery 1, future

NYSEG/Arlington natural gas storage Gallery 2 (wells 30, 45 and 31) and well 58, are too far away to affect storage operation of Finger Lakes LPG storage caverns. Based on rock mechanics and FEA calculations, much of the solution mined space that will be used for natural gas storage in NYSEG/Arlington Galleries 1 and 2 is in rubble that will provide support to the walls of the caverns at both the maximum and minimum planned storage pressure regime after passing the required mechanical integrity testing. The FEA does make reference to NYSEG Gallery 2 and the mechanical analyses performed for this gallery assuming natural gas service. FEA, p. 6. See also Exhibit 10 from Finger Lakes' initial application dated October 9, 2009. The description of the model in the FEA also references NYSEG Gallery 2. FEA, p. 8.

DEC Comment 1b. Is the converse of the above FEA statement valid (i.e., Finger Lakes' LPG caverns will not affect the existing or proposed NYSEG/Arlington Galleries 1 & 2)? Please modify the FEA as appropriate to address this issue or provide the page number where this is already addressed.

Finger Lakes Response: Conversely, by detailed calculation and implication, operation of the Finger Lakes LPG caverns will not affect the existing or proposed NYSEG/Arlington natural gas storage Galleries 1 and 2 at the proposed maximum and minimum pressure regimes as a high/low pressure vessel, after passing the required mechanical integrity testing.

The following issues remain and must be addressed concerning **Finger Lakes' cross-sections** (Exhibits D, E & F):

DEC Comment 1. The title block of both cross-sections (Exhibits D & E) show the company name as "Arlington Storage Company, LLC." The cross-sections should be revised to show the applicant's name.

Finger Lakes Response: The vertical cross-sections (revised Exhibits D and F), revised to show Finger Lakes LPG Storage, LLC in the title block, are included with this Response as Attachment E.

DEC Comment 2. Proposed Well FLl must be shown on Vertical Section B-B' (Exhibit D).

Finger Lakes Response: The revised cross-section being provided in response to the comment above shows proposed well FL1 and FL2 (the replacement for monitoring well 44).

DEC Comment 3. As previously requested, the setting depths of the brine strings must be shown on the cross-sections (Exhibits D & E). Please indicate "existing" or "planned" for each string.

Finger Lakes Response: The revised cross-sections show the setting depths of the brine strings (existing and planned).

- **DEC Comment 4.** Replacement wells: The location of any new wells that may be drilled as replacement wells for other wells being plugged must be shown on the cross-sections (Exhibits D & E).
- Finger Lakes Response: The replacement well for well 44 (identified as FL2) is shown on vertical cross-section Section B-B' and revised Exhibit A. FL1 is also shown on Vertical Section B-B'.
- **DEC Comment 5.** There appears to be a typo in Vertical Section B-B' at Well 52 where "TOR" is noted (Exhibit D).
- Finger Lakes Response: TOR should have been TOF and this has been corrected on this cross-section.
- **DEC Comment 6.** Any newly acquired sonar surveys must be incorporated and noted on the appropriate cross-sections along with providing a copy of the survey itself (e.g., Well 58).
- Finger Lakes Response: The recent sonar survey for well 58 is reflected on revised vertical cross-section A-A'. A copy of the sonar report, vertilog, vertilog inspection report, Gamma Ray Segmented Bond Log, and casing inspection and cement bond log evaluaiton are included with this Response as Attachment F.
- **DEC Comment 7.** The "Final Estimated Cavern Shape" of all well caverns must reflect Finger Lakes stated intention of using a LPG blanket during storage operations. In addition, the depth (MSL) of the top of the final estimated cavern must be shown (Exhibits D & E).
- Finger Lakes Response: The revised vertical cross-sections show the Final Estimated Cavern Shape which does reflect Finger Lakes stated intention of using a LPG blanket during storage operations.
- **DEC Comment 8.** Structural cross-sections A-A' & B-B' (Exhibit E) must be expanded vertically to show all formation tops noted in Figure 2 of the FEA (i.e., Marcellus, Onondaga, Helderberg/Manlius, Rondout, Bertie, Camillus, Salt).
- Finger Lakes Response: Structural cross-sections A-A' and B-B' have been revised and are included herein as Attachment G.

The following issues remain and must be addressed concerning Finger Lakes' Cavern Development Plan and Proposed Operations:

DEC Comment 1. It is understood that Well 44 may now be a candidate for plugging. Given that Well 44 was originally proposed to be a monitoring well, the Department requests that consideration be given to the installation of a replacement monitoring well that would be completed at the high point (as determined by the 2009 sonar) of the northern portion ("head" for

the purpose of this discussion) of proposed Finger Lakes Gallery 1. This use of this replacement well, similar to what was envisioned for Well 44, would be an indicator (monitoring) well for LPG which inadvertently moves past the "fill point" between the main body and head of Finger Lakes Gallery 1. However, use of this replacement well should be limited to monitoring. No brine or product injection should take place at this well to ensure no growth in this portion of Gallery 1. In addition to serving as an indicator well, the replacement well could also be used to recover any LPG that moves into the head of the gallery.

Finger Lakes Response: Finger Lakes agrees to install a replacement monitoring well that would be completed at the high point (as determined by the 2009 sonar) of the northern portion ("head" for the purpose of this discussion) of proposed Finger Lakes Gallery 1. Use of this replacement well will be limited to monitoring. No brine or product injection will take place at this well to ensure no growth in this portion of Gallery 1. The replacement well could also be used to recover any LPG that moves into the head of the gallery.

DEC Comment 2. Any operational changes that result from the plugging of wells previously planned for use must be explained.

Finger Lakes Response: In consultation with the DEC, Finger Lakes has revised its plan as follows: Well 33 will still be used for injection and withdrawal; wells 34, 43 and 44 will be plugged and abandoned; new well FL1 will be drilled for injection and withdrawal; and what we are calling new well FL2 will be drilled as a replacement for well 44 and be used as a monitoring well and only to recover LPG that moves into the head of the Gallery.

DEC Comment 3. Exhibit G "Finger Lakes Cavern Volume and Salt Tonnage Extracted or to be Extracted" must be updated to account for any newly acquired sonar survey (e.g., Well 58).

Finger Lakes Response: See Attachment H.

DEC Comment 4. Finger Lakes states it "will leave enough LPG in the cavern to prevent any solutioning of the cavern roofs. This plan is similar to what the Department approved for Cavern 6 at the Savona LPG Facility." Please provide the minimum thickness of the LPG blanket that will be maintained during storage operations, and from which point in the cavern it is measured. It is understood that any recoverable blanket will be removed for workover operations but reinstalled when storage operations are resumed.

Finger Lakes Response: In well 58, Finger Lakes will leave ~6,000 barrels at the new casing cut off at approximately 2,157 feet. In FL1, the depth will be determined when the well is drilled.

DEC Comment 5. Finger Lakes states "During operation of Gallery 1, Finger Lakes also proposes to utilize a digital pressure recorder on well 52 that will be linked to Finger Lakes' control room and SCADA system to ensure that pressures in both Gallery 1 and 10 are monitored to ensure that in the unlikely event there is some potential communication" ... "actions can be implemented to ensure product is not allowed to enter Gallery 10 which may not be tight." What

days and hours will the control room be manned? What specific actions would be taken if communication between the galleries is indicated?

Finger Lakes Response: Inergy has a control room at its Stagecoach station manned 24 hours a day. Finger Lakes' control room will be monitored during operating hours, which will typically be from 6 a.m. to 6 p.m. When no personnel are at the Finger Lakes facility, the SCADA system that will be installed for the Finger Lakes facility will be electronically connected to Stagecoach. In addition, if any alarm ever occurs at Finger Lakes, it will be programmed so that local operators will be contacted by phone. In terms of actions to be taken if such communication is indicated, product will be withdrawn from the galleries and transferred to tank cars and trucks.

Well Status and Condition Report

The following issues remain and must be addressed concerning Finger Lakes' Well Status and Condition Report:

DEC Comment 1. Given certain well applications were received, issues related to the adequacy of wells for the project are being reviewed by the Department's Region 8 Mineral Resources office in Avon. Discussions are ongoing concerning the drilling, conversion and plugging of various project wells. However, Finger Lakes' response to this Third NOIA must identify which wells will be plugged within the proposed storage galleries, and the proposed use of all remaining and new well(s).

Finger Lakes Response: <u>See</u> response above to Comment 2 under Finger Lakes' Cavern Development Plan and Proposed Operations.

DEC Comment 2. Finger Lakes' response did not include all of the well logs described. Please provide one copy of the following logs: Microvertilog (Wells 33, 44, 52, 58) and CBL (Wells 34, one copy of 52 as requested in above Item 2d on Page 1).

Finger Lakes Response: Finger Lakes has provided the following logs/surveys/reports:

Well 33:

Segmented Bond Log – Gamma Ray: 1/26/09 [submitted to DEC on 9/28/10] Segmented Bond Log – Gamma Ray: 10/6/10 [submitted to DEC on 10/28/10]

Well 34:

Microvertilog: 1/26/09 [submitted to DEC on 9/28/10]
Segmented Bond Log – Gamma Ray: 10/6/10 [submitted to DEC on 10/28/10]

Well 43:

Gamma Ray Radial Bond Log: 10/6/10 [submitted to DEC on 10/28/10]

Well 44:

Segmented Bond Log – Gamma Ray: 1/27/09 [submitted to DEC on 9/28/10] Segmented Bond Log – Gamma Ray: 10/7/10 [submitted to DEC on 10/28/10]

Well 52:

Gamma Ray Segmented Bond Log: 11/14/09 [submitted to DEC on 5/14/10]

Microvertilog: 11/14/09 [submitted to DEC on 5/14/10] Sonar Survey: 11/19/09 [submitted to DEC on 5/14/10]

Well 58:

Cement Bond Log: 11/17/92 [submitted to DEC on 9/28/10]

Compensated Neutron – Formation Density Log: 10/21/92 [submitted to DEC on 5/14/10]

Gamma Ray Neutron: 11/4/09 [submitted to DEC on 5/14/10]

Gamma Ray Segmented Bond Log: 10/14/09 [submitted to DEC on 5/14/10]

Mircrovertilog: 10/14/09 [submitted to DEC on 5/14/10] Sonar Report: 10/20/09 [submitted to DEC on 5/14/10]

Gamma Ray Segmented Bond Log: 3/24/11 [submitted with this response]

Vertilog: 3/24/11 [submitted with this response]

Echo-Log Sonar Report: 3/25/11 [submitted with this response]

HR Vertilog Inspection Survey Report: 3/27/11 [submitted with this response]

Baker Hughes Casing Inspection and Cement Bond Evaluation: 4/1/11 [submitted with

this response]

A microvertilog was not run for wells 33 and 44 in 2009 or 2010.

A microvertilog was run for wells 52 and 58 in 2009 and that was provided in our submission of May 14, 2010.

The segmented bond log for well 34 conducted on October 6, 2010, was provided to the Department on October 28, 2010. The only other records we have uncovered is an MIT report and chart on Finger Lakes Gallery 1 from 1985. See Attachment I.

DEC Comment 3. A copy of any newly acquired well evaluation logs must be provided to the Department (e.g., Well 58).

Finger Lakes Response: See Attachment F referenced above.

List of Attachments

\boldsymbol{A}	GPS lati	itude/lo	ongitude o	coordina	tes for Wells 44 and	52
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- B Additional Records for well 18 and Gallery 10
- C Annotated Cement Bond Log for well 52
- D Revised Exhibit A showing location of replacement well as FL2
- E Revised Vertical Cross-Sections
- F Sonar Survey, vertilog, vertilog inspection report, Gamma Ray Segmented Bond Log, and casing inspection and cement bond log evaluation for well 58
- G Revised Structural Cross-Sections A-A' and B-B'
- H Revised "Finger Lakes Cavern Volume and Salt Tonnage Extracted or to be Extracted"
- I Finger Lakes Gallery 1 MIT Report and Chart, dated 1985